

APPENDIX E

CULTURAL RESOURCES

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APPENDIX E

CULTURAL RESOURCES

Introduction

The U.S. Department of the Interior (USDI) Bureau of Land Management (BLM) is proposing to treat vegetation on an estimated 6 million acres annually in the western United States and Alaska. The purpose of these treatments is to conserve and restore vegetation, fish and wildlife habitat, and watershed function on public lands administered by the BLM (public lands). Vegetation treatment methods could include mechanical, manual, chemical, and biological control, as well as use of fire.

The vegetation treatment actions would occur on public lands administered by the BLM in Alaska, Arizona, California, Colorado, Idaho, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming. The BLM is preparing a Programmatic Environmental Impact Statement (EIS) to evaluate the impacts of the vegetative treatments on the environment, which includes cultural resources.

Approximately 3.5 million acres would be treated to restore historic fire regimes and to reduce the risk of wildfire on public lands. An estimated 1.5 million acres of wildfire-damaged land would be treated annually under the Emergency Stabilization and Rehabilitation program. The rest of the acreage would be managed under several BLM programs, primarily involving the control of noxious weeds and invasive plants, improving fish and wildlife habitat, and watershed function.

The BLM is preparing a *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS)* and a *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report (PER)* to evaluate the impacts of the vegetative treatments on the environment and local economies. As part of the program, the BLM may be allowed to use several proposed herbicides that will be evaluated in the PEIS, as well as new chemicals that may be developed in the future. An assessment of the risks to humans,

vegetation, fish, and wildlife from using these chemicals is currently underway. As part of the PEIS, a protocol will be developed to allow the BLM to streamline the process for evaluating and receiving approval for use of herbicides that may be developed in the future.

In this report we summarize the presence and general types of prehistoric (refers to the era before the advent of the written record and the people living in North America before European contact) and historic sites (known cultural resources) on nearly 261 million acres of public lands. In particular, this report focuses on the length of prehistoric occupation and the variety of both prehistoric and historic cultural resource types found throughout the western United States and Alaska. Archaeologists have documented that the Americas have been occupied for at least 13,000 years. Beginning in the 1500s, European and Euroamerican explorers and traders encountered descendants of the earliest Americans in what are now the western United States and Alaska. Various laws and regulations require that the BLM inventory for, and consider the impacts of, actions to prehistoric and historic cultural resources located on the lands it manages.

This report includes a brief summary of applicable legislation and regulations, and summary discussions of the five culture areas and cultural resource site types known to exist where the 17 states comprising the study area are now located. These sections are followed by a summary of cultural resource site types on public lands that may be impacted by BLM projects, a listing of references cited in the report, and a bibliography of BLM and U.S. Department of Agriculture (USDA) Forest Service cultural resource overviews or summaries.

Review of Legislation and Regulations

The BLM cultural resource management responsibilities are prescribed in various pieces of federal legislation including the National Historic Preservation Act (NHPA), the Federal Land Policy and

Management Act (FLPMA), the National Environmental Policy Act (NEPA), the American Indian Religious Freedom Act (AIRFA), the Archaeological and Historic Preservation Act (AHPA), the Archaeological Resources Protection Act (ARPA), and the Native American Graves Protection and Repatriation Act (NAGPRA). Regulations for compliance with Sections 106 and 110 of NHPA are set forth in 36 Code of Federal Regulations (CFR) 800 prepared by the President's Advisory Council on Historic Preservation and entitled "The Protection of Historic and Cultural Properties." As individual properties are located, the recorder and researcher gather sufficient information to make recommendations of eligibility for the National Register of Historic Places (National Register). Under FLPMA, the BLM is specifically mandated to protect historical, including prehistoric, resources. Internal guidance for implementing these and other laws and regulations is set forth in detail in the BLM Manual 8100 series.

According to the BLM Manual 8100 series (recently revised), the BLM is responsible for evaluating, managing, and protecting cultural resources located on lands that it manages. Cultural resources include prehistoric and historic archaeological and architectural sites or properties that are definite locations of human activity, occupation, or use identifiable through field inventory or survey, historical documentation, or oral evidence. Cultural resources also include Traditional Cultural Properties, places that are culturally significant to various ethnic groups including Native Americans and Alaska Natives, and may also include Indian sacred sites. Cultural resources may be archaeological, historic, or architectural sites, structures, or places with important public and scientific uses, and may include definite locations (sites or places) of traditional cultural or religious importance to specified social and/or cultural groups.

Executive Order 13007, *Indian Sacred Sites*, affords protection, access, use of and confidentiality for tribal spiritual places on federal lands, and authorizes federal agency field managers to provide such considerations to Indian Tribes, as outline in USDI Department Manual, Part 512, Chapter 3 (*Department Responsibilities for Protecting/Accommodating Access to Indian Sacred Sites*).

The PER and PEIS are designed to look at the broad impacts associated with implementing the vegetation treatment program. Because the program covers such a

large area, it is not realistic to assess site-specific impacts in the PER and PEIS. This approach will allow future development of site-specific NEPA documents, such as land-use plans and project-specific environmental analyses, thereby eliminating the need for repetitive discussions of the same issues in the site-specific documents.

Prehistoric Culture Area Summaries and Associated Cultural Resource Site Types

Given the broad coverage of the area being addressed in the current PEIS, summary cultural resources data are presented using the culture area approach. [Table E-1](#) illustrates the correlation between states, culture areas, and, as closely as possible, ecoregion divisions. Throughout the twentieth century, anthropologists and archaeologists defined and refined the Native culture areas of North America. The discussions by culture area divisions in this section generally follow those currently accepted and presented by professional anthropologists and archaeologists in the twenty-volume *Handbook of North American Indians* (Sturtevant 1978-2001).

A culture area is a geographic region in which the tribes share many common cultural traits. Anthropologists and archaeologist generally identify 10 culture areas in North America, of which seven are included here ([Figure E-1](#)). It is important to keep in mind that the contemporary borders between states did not exist in aboriginal times and has little bearing on plant and animal distributions and indigenous land use patterns and resource exploitation. Thus, there is almost no equivalence between states and culture areas; portions of most states occur in more than one culture area.

The following summaries of prehistoric resources by culture area are further subdivided into broad time periods. The earliest time period is generally labeled as Paleoindian, the earliest cultural ancestors of the Native Americans or Indians, later encountered by historic Europeans or Euroamericans (Americans of European descent). Some archaeologists refer to Paleoindians as big game hunters, but as large mammals disappeared and the climate warmed and dried following the disappearance of major glaciers 15,000 to 10,000 BP, subsistence practices also changed. The following period from 10,000 to 6,000

TABLE E-1
States, Ecoregions, and Culture Areas for BLM Vegetation Treatment Areas

State or Portion of State	Culture Area	Ecoregion Division (Bailey 1995)
Alaska (except for Southeast Alaska)	Arctic and Subarctic	Subarctic/Tundra/Marine
Southeast Alaska, Western Washington, Western Oregon	Northwest Coast	Marine/Mediterranean
California (west of desert areas)	California	Mediterranean
Southeastern Oregon, Southern Idaho, Nevada, Western Wyoming, Western Colorado, Utah, Eastern California, Northwestern Arizona	Great Basin	Temperate Desert
Southeastern Utah, Southern Colorado, Western and Southern Texas, Arizona, New Mexico, Southeastern California	Southwest	Subtropical Desert/Steppe
Eastern Montana, North Dakota, South Dakota, Eastern Wyoming, Nebraska, Eastern Colorado, Kansas, Oklahoma, Eastern New Mexico, Central and Northern Texas	Plains	Temperate Steppe
Eastern Washington, Central and Northeastern Oregon, Northern Idaho, Western and Southwestern Montana	Plateau	Temperate Desert/Steppe

or 5,000 Before Present (BP), known as the Archaic, was a period of transition when human populations increased and exploited a broader range of animals and plant resources to survive.

In some areas the Archaic lifeway persisted until European contact, while many Native American groups throughout the western United States and Alaska generally became sedentary, settling in permanent or semi-permanent dwellings. They often settled into seasonal camps or villages, with the development of year round habitations in areas such as the Southwest and the Northwest Coast where cultural practices, such as irrigation, allowed production of crops that could be dried and stored for use throughout the year or even used over several years or abundant subsistence resources, such as salmon, could be caught, smoked and/or dried, and stored for later use or trade.

Arctic and Subarctic (Alaska)

13,000+ to 9,000 BP

One current theory among archaeologists is that the earliest human migrants, referred to as Paleoindians, crossed into the New World via the Bering Land Bridge, the area also known as Beringia. At the beginning of this period, much of Alaska was very cold windswept tundra. With huge quantities of seawater frozen in glaciers, early human migrants crossed into Alaska preying upon large herbivorous late Pleistocene (or glacial period) animals, such as

mastodon, woolly mammoth, horse, and bison. Other scholarship suggests that Paleoindians may have used watercraft to move along the shoreline. A number of Paleoindian sites dating between 13,000 and 11,000 years ago are located in interior Alaska. One of the earliest archaeological sites of the period is the Mesa Site in northern Alaska, where Paleoindian projectile points were discovered atop a high, flat-topped topographic feature overlooking prime grazing lands. Other typical artifacts include lanceolate projectile points, bifacial knives and scrapers, and retouched flake tools (Ames and Maschner 1999, Dixon 1999). Based on the low density of artifacts at sites from this period, the early inhabitants of the region likely were highly mobile hunter-gatherers using short-term campsites or caves. Cultural resource sites from this time period include open campsites, habitation or campsites located in caves or rockshelters, and sites where game animals were killed and/or processed.

9,000 to 6,000 BP

As the post-glacial climate in Alaska ameliorated, prehistoric cultures became more established. Early on, many aboriginal groups maintained a similar subsistence strategy to the Paleoindians, with archaeological tool assemblages frequently dominated by microblades, small wedge-shaped cores, and specialized carving tools of stone called burins; thus, this period often is referred to as the Microblade Tradition (Dumond 1987). In addition to open campsites and sites with skin-covered tents, semi-subterranean houses are documented for this period

(Anderson 1984). Also dating to early in the period is Anangula, an extensive archaeological site located in the Aleutian Islands that represents the first sedentary population in Alaska. Out of Anangula came the Ocean Bay Tradition, a maritime-adapted culture that spread from the Aleutian Islands up the Alaskan Peninsula to Kodiak Island. Chipped stone knives, blades, and projectile points are common in Ocean Bay tool assemblages (Clark 1984). Toward the end of the period, the Northern Archaic Tradition arose in the boreal forests of the interior, represented by small, seasonal archaeological sites with artifact assemblages composed of lanceolate (spear-shaped) and side-notched projectile points and scrapers (Dumond 1987).

6,000 to 250 BP

Technological advancements during this period led to the development of several distinct cultures. The period commenced with the Arctic Small Tool Tradition, a widespread cultural phenomenon represented by tool kits that included small stone endblades and sideblades that were inserted into the shafts of arrows or spears (Dumond 1987). Other hallmark artifacts included microblades, small adz blades, and burins. Carriers of the Arctic Small Tool Tradition spread east across Alaska into Canada, hunting musk ox and other terrestrial animals, with only limited maritime hunting (Dumond 1987). However, the populations of Arctic Small Tool Tradition people who stayed in Alaska developed highly specialized maritime technologies (including kayaks, umiaks—large, open skin boats—dogsleds, toggling harpoons, bow and arrows, and ground slate tools), manifested first by the Norton Tradition and later by the Thule Tradition. In southwest Alaska, the Aleutian and Kodiak traditions developed out of Ocean Bay and refined the maritime specialization. While Kodiak Tradition artifacts were made from ground slate, artifacts of the Aleutian Tradition continued to be chipped stone (Dumond 1987). By the beginning of this period, habitations in the form of semisubterranean houses, often clustered in villages, was a common site type (McCartney 1984, Dumond 1987). In the interior, Athabaskan Indians likely descended from the earlier Northern Archaic culture (Anderson 1984).

Northwest Coast

12,500+ to 6,000 BP

The earliest indisputable evidence of human occupation on the northern Northwest Coast comes from the Ground Hog Bay 2 Site in Southeast Alaska, dating to about 11,000 BP (Ames and Maschner 1999). Early evidence for occupation of the central and southern Northwest Coast is slightly younger, dating to about 10,000 BP, though faunal remains from the Manis Mastodon site on the Olympic Peninsula suggest human presence earlier than 12,000 BP (Lyman 1991). Subsistence systems were geared toward maritime resources and typical artifacts consist of large chipped stone projectile points, microblades, compound harpoons, and grinding stones (Ames and Maschner 1999). However, due to poor preservation in this region, faunal remains and tools made from perishable items dating to this period are rarely preserved. In addition, the changing sea levels over the last 10,000 years have inundated many of the older occupation or resource processing sites in the region.

6,000 to 250 BP

By about 5,000 BP, sea levels rose and stabilized at current levels and distinctive cultural patterns emerged. Bone and ground stone tools became prevalent from Southeast Alaska to Puget Sound, as did large settlements and specialized maritime subsistence strategies. By 3,500 BP, there is evidence of sedentism based on the presence of pithouses and shell middens in western Washington, and by 3,000 BP, well-established trade networks with Plateau cultures (Nelson 1990). Archaeological sites dating to 1,000 BP indicate that by that time most Northwest Coast groups were sedentary and occupied village sites on a year-round basis. Many village sites are located for defensive purposes and often include fortifications, suggesting the presence of warfare, social complexity, and competition for resources (Ames and Maschner 1999). Typical artifacts of the period include composite woodworking tools, netsinkers, bone and antler tools, and copper and iron tools. One of the most important sites in the region is located at Ozette, on the Olympic Peninsula of Washington State. This “wet” village site typifies the Makah Indian whaling culture of approximately 500 BP. Faunal and organic remains recovered at Ozette indicate that the site was occupied year-round, and the number of well-preserved archaeological materials illustrates important socioeconomic and technological information (Wessen

1990). Unfortunately, archaeological sites in the Northwest Coast region are generally difficult to locate because of dense vegetation; in addition, the damp climate and high acidity of soil often results in the poor preservation of cultural remains, especially organic materials (Nelson 1990). Petroglyphs, designs

pecked into bedrock outcrops or boulders, are estimated to be from 4,500 to 1,000 years old and are one of the better preserved and visible site types; pictographs, designs painted on bedrock, are less common (Boreson 1998, Ames and Maschner 1999).

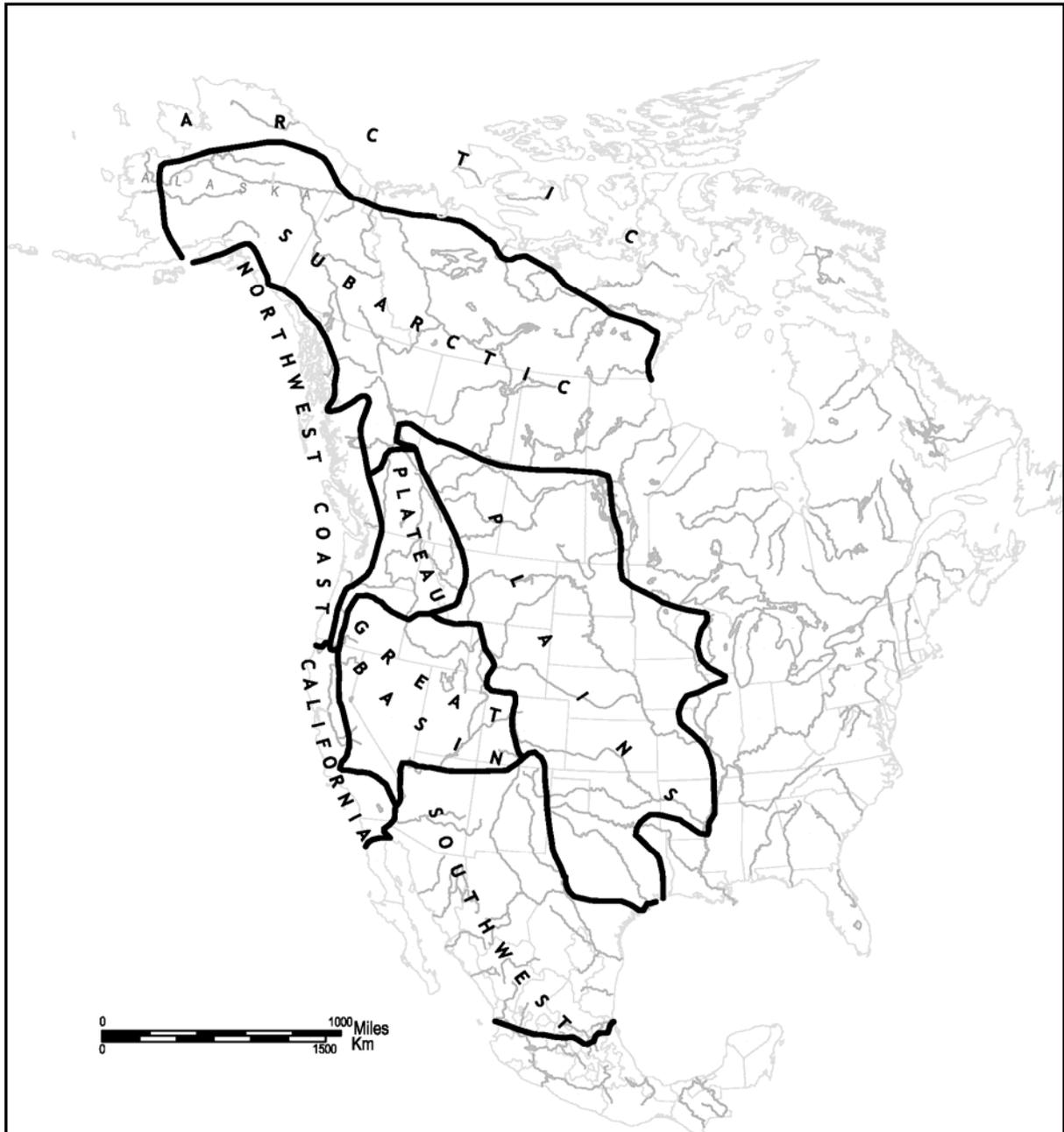


Figure E-1. Native Areas of Western North America (after Washburn 1988).

A handful of “wet sites” occurring in the Pacific Northwest have been systematically studied, with excellent preservation of organic components, such as acorns, wood and basketry items, from prehistoric sites on the Olympic Peninsula of Washington, including Ozette, the Hoko River, Mud Bay, and the “Sunken Village” on the Willamette River in Oregon (Croes 2007).

California

11,000(?) to 8,000 BP

At the beginning of this period, climatic conditions in California were generally cool and moist. These conditions contributed to the formation of numerous pluvial (rain fed) lakes in the interior valleys and desert regions (Moratto 1984). The Lake Mojave locality, radiocarbon dated to just over 10,000 BP and representing some of the oldest archaeological materials in California, includes evidence of big game hunting with a gradual expansion in the use of plant resources. Open camp and processing sites dating to this period generally are small and rarely yield faunal remains, suggesting that early occupants of the region were few in number and maintained a highly mobile subsistence strategy. Artifacts of the period include large, fluted projectile points, leaf-shaped points, shouldered points, chipped stone crescents, scrapers, knives, and choppers (Wallace 1978).

8,000 to 5,000 BP

Between 8,000 and 7,000 BP, the warm, dry period known as the Altithermal (a period of climatic optimum) resulted in the drying of the pluvial lakes and marshes, forcing people to adapt to new environments away from the interior and toward the west (Moratto 1984). Based on the presence of milling stones at sites dating to this period, a shift from primarily big game hunting to plant and seed collecting occurred between 8,000 and 5,000 BP. Artifact assemblages are surprisingly homogeneous, consisting mostly of heavy, deep-basined milling stones, and hand stones, with projectile points, likely used with atlatls (spear-throwing sticks). Maritime resources are infrequently present within faunal assemblages in coastal midden sites. Other site types include camps and some villages in coastal areas with plentiful resources (Wallace 1978).

5,000 to 2,000 BP

Starting about 5,000 BP, a transition towards a more diversified subsistence economy that included the exploitation of marine and terrestrial resources is evident, likely related to a brief cool and wet period at the beginning of the period (Moratto 1984). Sophisticated marine adaptations were in place on the Channel Islands near Santa Barbara by about 5,000 BP, producing huge middens of shell, fish bones, and sea mammal bones (Wallace 1978, Kehoe 1992). Around the same time, inland sites located far from maritime resources show evidence of intensive plant processing, likely acorns, indicated by the presence of mortars and pestles. By about 4,000 BP, resource-rich areas such as the San Francisco Bay had relatively high population densities located in villages. The archaeological record of this period becomes more complete, indicating greater specialization and regional adaptation, including the appearance of netsinkers in artifact assemblages. Some of the recorded petroglyphs appear to correlate with similar ones from the Great Basin dating 3,000 years old, while very elaborate, perhaps ceremonial, pictographs are thought to be no more than 1,000 years old (Clelow 1978).

2,000 to 250 BP

Archaeological and climatic evidence from the last two thousand years indicates that subsistence and settlement patterns in California remained quite stable, with reliance on marine adaptations on the coast; riverine resources, especially salmon, in the north; lake and marsh resources in the central and south portions; and deer and acorns throughout the state. The presence of bedrock mortars in the Sierra Nevada foothills indicates continuous use of the same areas for long periods of time. There is also evidence for widespread burning of grasslands, brush, and forests throughout the state to stimulate plant growth and provide forage for deer, which were a universal food source (Driver and Massey 1957; Lewis 1993; Timbrook et al. 1993; Bendix 2002). The wide distribution of elaborate grave goods and trade items across the state indicates that social stratification, cultural complexity, and trade relationships developed over this period.

Great Basin

11,500+ to 8,000 BP

During the cool and moist climatic conditions of the Pleistocene, pluvial lakes and marsh environments dominated the region (Mehring 1986). Two of the oldest sites in the region are the Tule Springs campsite, dating to 11,000 BP, and Danger Cave, which has yielded artifacts dating to as early as 9,000 BP (Aikens 1983). Typical artifacts of this period include leaf-shaped and long stemmed projectile points, occasional fluted points, specialized scrapers, chipped stone crescents, and drills (Warren and Crabtree 1986). This period also includes the earliest evidence of basket making among the culture areas presented in this report (Adovasio 1986). Sites dating to this period usually are surface scatters with no evidence of long-term use, although a number of caves have early occupations. Archaeologists conclude that inhabitants of the region were highly mobile hunter-gatherers with a generalized big game hunting and collecting economy that exploited pluvial lakeshore resources.

8,000 to 4,000 BP

The warm and dry climatic conditions of the early to mid-Holocene (the post-glacial period) were a limiting factor on human subsistence activities, with pluvial lake and marsh environments shrinking at the expense of mesic-adapted plants and shrubs (Mehring 1986). Sites dating to this period are rare, especially in the more arid portions of the Great Basin, and include caves (Aikens 1983) and rockshelters in drier areas or pithouse villages located in valley bottoms near permanent streams and springs (Elston 1986). Although generalized hunting and collecting remained the major subsistence practices, seed gathering and processing activities gained importance, as indicated by bedrock mortars and milling stones (manos and metates). Root collecting, suggested by piles of rocks used as earth ovens, entered the subsistence economy during this period. Fishing was also gaining importance during this era, as indicated by fish weirs and net sinkers (Mehring 1986). Typical artifacts of the period include projectile points used with atlatls, basketry, twined sandals, and various wooden implements (Aikens and Madsen 1986).

4,000 to 250 BP

By about 4,000 BP, Mediterranean climatic conditions (cooling with increasing moisture leading to current

conditions) prevailed across the region, yielding similar conditions to the present day (Jennings 1986). Subsistence systems continued to be very adaptive and broad spectrum; the people continued to hunt various size animals and birds and gather plant foods. Pluvial lakes and other impermanent, resource-rich areas were heavily exploited during their seasonal existence. Over time, the projectile point styles of the region shifted from larger stemmed or corner-notched points to small, corner-notched or side-notched points, indicating the adoption of the bow and arrow. While caves such as Danger Cave, Utah, continued to be occupied (Aikens 1983), many locations along major rivers contained small pithouse villages with associated storage facilities (Butler 1986). Horticulture, indicated by the presence of pottery and floral remains recovered from storage pits, was introduced in the eastern Great Basin and Owens Valley in eastern California by neighboring Southwest cultures around 1,500 BP. However, outside of these areas, hunting and gathering remained the primary subsistence practice. An expanded reliance on pinyon nut gathering became important during later times, as evidenced by mortars and pestles (Aikens and Madsen 1986, Elston 1986). Some of the earliest petroglyphs (possibly as early as 5,000 BP) are simple grooves, pits, and facets, with more definable petroglyphs by 3,000 BP and pictographs by 1,000 BP (Schaafsma 1986).

Southwest

11,500 to 8,000 BP

The earliest widespread, reliably dated archaeological materials in North America belong to the Clovis Period, documented mainly in the continental United States, and dating between 11,800 and 10,800 BP. The Clovis projectile point—a large bifacially flaked stone tool identified by a prominent “flute” or flake scar running longitudinally from the base—is the diagnostic artifact type and often demonstrates evidence of extensive reuse. Based on evidence from across North America, Paleoindian peoples likely were organized as highly mobile bands of hunter-gatherers. And while Clovis points, and the somewhat later Folsom points, traditionally have been cited as evidence of “big-game hunting,” the widespread distribution of points recovered from diverse environments suggests a more generalized hunting and gathering strategy (LeTourneau 2000, Bamforth 2002).

The earliest documented complexes of the Paleoindian period, Clovis and Folsom (named after locations in the Southwest) occupied the region during a period of greater moisture than today. However, steadily decreasing moisture and erosion sequences for a few thousand years, apparently beginning earlier in this period in the western part of the region, resulted in changes in available animal and plant resources (Irwin-Williams 1979). In general, the varied environments provided numerous habitats for diverse resources, which led to subsistence patterns adapted to specific environments. Archaeological sites are generally located near now-extinct springs, large and small playas (which were Pleistocene lakes), or major drainages, and consist of open camps, animal kill sites, animal processing sites, or caves. Human groups of this period practiced a highly mobile hunting and gathering subsistence strategy.

8,000 to 2,000 BP

The beginning of this period is marked by a steady decrease of effective moisture, with a period of extreme dryness between 7,000 and 5,000 years ago, when a moderate increase in precipitation began. The later increase in precipitation in the region produced more resource-rich areas, which subsequently led to an increase in the number of archaeological sites (Irwin-Williams 1979). Archaeological sites from this period are most typically open campsites located near springs, in river valleys, along prominent streams, or along ancient lakeshores and contain chipped and ground stone tools, including manos and metates used to grind seeds. There are also rockshelter or cave sites, where well preserved twined sandals, wood artifacts, and basketry are often also recovered (Kehoe 1992). As the number of productive resource patches increased, human groups responded by engaging in a broader spectrum hunting and gathering strategies, exploiting a wider range of resources than in previous times. Horticulture was introduced into the Southwest as early as 4,500 BP, although domestic crops did not substantially contribute to the diet until later (Woodbury and Zubrow 1979). Typical artifacts of the period include stemmed projectile points used with atlatls, basketry, scrapers, grinding slabs, and cobble tools. Remains of surface structures, made of posts and brush or other material, are documented beginning midway through the period in the west, with primitive corn or maize first entering the southern part of the area (Irwin-Williams 1979). The first pit house sites and storage pits are documented late in this period (Woodbury and Zubrow 1979). Petroglyphs likely first

appeared on rock outcrops and boulders by 3,000 BP with multicolor, or polychrome, abstract pictographs appearing within 500 to 1,000 years (Schaafsma 1980).

2,000 to 250 BP

Researchers subdivide the Southwestern culture area into the Anasazi, Mogollon, Hohokam, and Hakataya geographical-cultural areas (Woodbury 1979), each of which occupied distinct environmental zones and emerged around 2,000 BP. The Anasazi occupied variable topography during the generally cooler and moister periods; the Mogollon inhabited well-watered, forested and mountainous regions; the Hohokam were primarily located in low, dry deserts; and the Hakataya occupied the hot desert regions bordering the lower Colorado River (Woodbury 1979). Parts of the region were intensively occupied and socially and economically linked to the civilizations of the Mexican Classic Period, when sedentary cultures began to emerge (Irwin-Williams 1979). Archaeological recovery of minerals unique to the Southwest, specifically turquoise and malachite, in central Mexico, and copper bells, macaw feathers, and seashells imported into the Southwest from Mexico, indicate long-distance trade routes that were established during this period. Maize was cultivated in earnest by about 2,200 BP, soon followed by beans, squash, cotton, and other cultigens (Irwin-Williams 1979, Woodbury and Zubrow 1979). While the earlier hunting and gathering economy was slowly replaced by agriculture, some groups maintained mobile subsistence strategies, including seasonal bison hunts in the southern plains (Woodbury and Zubrow 1979). By 1,700 BP, some inhabitants of the region had developed sophisticated irrigation, pottery, storage pits, and pit house villages. Later, inhabitants built small to large permanent towns of multi-story, above ground structures (pueblos), often with ceremonial structures (kivas). Sites dating to this period, such as Snaketown along the Gila River of southern Arizona, often include features like irrigation canals, wells, storage pits, and roads. Typical artifacts consist of pottery (used for the storage of crop surpluses), basketry, and small corner-notched projectile points indicating the adoption of the bow and arrow by 1,500 BP (Woodbury and Zubrow 1979). Some time prior to 500 BP, various groups of Apachean speakers arrived in the Southwest region after a long journey from western Canada. While primarily mobile hunters and gatherers, at least the Navajo became semi sedentary, adopting agriculture and pottery making from the

Pueblo people. Moreover, while the Apachean habitations primarily consisted of wood or brush shelters and tepees (or pueblos among eastern groups), the Navajo often constructed cribbed log houses (hogans) and multi-room masonry structures (pueblitos; Gunnerson 1979, Brugge 1983, Young 1983).

Plains

12,000 to 8,000 BP

Human occupation of the Plains region dates to at least 11,500 BP based on radiocarbon dates for the fluted projectile points first identified at sites along Blackwater Draw near Clovis, New Mexico. The human inhabitants of the Plains responsible for the Clovis complex, and the subsequent Folsom complex, were formerly characterized as highly mobile hunters who are believed to have pursued Pleistocene megafauna (big-game) across Beringia into North America. More recent studies have concluded that the data indicate broader subsistence pursuits. Sites dating to this period vary from small campsites to large resource processing sites. They were frequently located near water sources, occupied either on a short-term basis or repeatedly over varying lengths of time, and often include finely manufactured fluted, stemmed, or lanceolate points in association with skeletons of extinct game species. The advent of "Archaic" cultural complexes and corresponding projectile point styles followed climate changes toward the end of the Pleistocene, diminution in fauna, and increased variety in available root, fruit, and seed crops coinciding with adaptation changes in human subsistence patterns and technologies.

8,000 to 2,000 BP

Bison hunting has played a significant role in the subsistence economy of Plains groups throughout prehistory, and while the climatic warming of the Altithermal altered the region's biomass productivity, human groups responded by shifting their emphasis towards the smaller *Bison bison* species. Early in the period, documented inhabitants of the northwestern, western and southern Plains maintained the highly mobile subsistence strategy of the earlier big game hunters that involved following or intercepting bison migrations across the broad region. Sites were occupied on a short-term basis, often leaving only surface scatters. Bison were often killed in large numbers using corrals or by driving the animals over

cliffs, often using lines of rock cairns. Additional hunted fauna included elk, mountain sheep, deer, antelope, bear, and various small mammals, as well as fish, freshwater mussels, reptiles, and amphibians. Archaeological evidence indicates that diverse plant resources, including roots or bulbs, berries, fruits, and seeds, were collected and often processed using a variety of grinding stones. Typical artifacts of this period range from medium-sized lanceolate to large, side-notched projectile points to corner-notched dart points, along with hide scrapers, milling or grinding stones, coiled basketry, and pottery occurring toward the end of the period. While open campsites (often with fire pits), cave or rockshelter sites, and bison kill and processing sites are the most common types, burials, as well as sites containing housepits and/or food cache pits, are also documented throughout this period. In addition, the use of tepees, based on the presence of stone circles at cultural resources sites, is first documented toward the end of the period (Frison 2001, Vehik 2001).

2,000 to 250 BP

Based on the presence of small, corner-notched projectile points, the bow and arrow first appeared in the northwestern Plains about 1,900 BP. With the adoption of this new technology, hunting became more efficient. The use of tepees by the more nomadic western and northwestern Plains dwellers became very common through this period to the point where some multiple stone circle sites resemble villages. Beginning early in this time period, petroglyphs and pictographs became more common on rock outcrops in the northern and northwestern Plains and southeastern Colorado (Frison 2001, Gunnerson 2001). By 1,500 BP, farming was well established in the eastern Plains, spreading to the Middle Missouri River region by about 1,000 BP. In both areas most cultivation was confined to river valleys, as most of the rest of the region was too arid to support domesticated crops (Wedel 1961, 1983; Maxwell 1978; Kehoe 1992). Cultivated plants included maize, beans, squash, and sunflowers, which supplemented hunted fauna including bison, antelope, deer, small game, turkeys, and fish (Kehoe 1992). Early in this period occupants of the eastern Plains, Middle Missouri, and southern Plains regions lived in wattle and daub (woven wood and mud) houses, often in village arrangements along rivers or major tributaries, made pottery, and constructed burial mounds. Later in the period, the first two regions contained earth lodge villages, some of which were fortified, with numerous food storage pits

and pottery as a common artifact (Bell and Brooks 2001, Johnson 2001, Krause 2001, Wedel 2001, Wood 2001). The presence of obsidian at Kansas City sites dating to about 1,600 BP (Wedel 1983), and dentalia shells at Mandan village sites in North Dakota dating to about 600 BP, indicate the extensive trade networks connecting groups using the Yellowstone National Park area and others living in the Pacific Northwest (Kehoe 1992). Southern Plains site types include open sites, rockshelters, and both above ground dwellings and pithouses, some clustered in small villages. Subsistence initially depended on hunting and plant gathering, with horticulture variable toward the end of the period and use of bison increasing. Sometime around or after 600 BP, Apachean groups migrated from western Canada and settled in the southern Plains in open sites, sites with wattle and daub structures and tepees, or above ground, adobe structures in northeastern New Mexico (Vehik 2001).

Plateau

12,500 to 8,000 BP

With dry winters and hot summers, the arid climate of this period constricted resources to the margins of rivers and major tributaries. Occasional surface finds of fluted points and the 12,500-year-old cache of Clovis points at the Richey-Roberts site near Wenatchee, Washington, represent some of the earliest evidence of prehistoric occupation in the Plateau. Archaeological sites dating to this period include caves, rockshelters, and open camps, rarely with evidence of brush shelters; the low frequency of early sites is generally attributed to the low population densities of the highly mobile hunter-gatherers who occupied the Plateau. Stemmed and unstemmed lanceolate projectile points, microblades, cobble tools, scrapers, graters, and bifaces are common artifacts associated with the period. Although groups engaged in fishing, intensive utilization of riverine resources did not occur until later, when climatic conditions stabilized. One exception to this is the Five Mile Rapids site where thick deposits of salmon bones and artifacts are dated at 9,000 to 10,000 years old (Ames et al. 1998; Ames and Maschner 1999).

8,000 to 4,000 BP

A gradual increase in overall moisture during this period helped expand the range of sagebrush steppe and stimulated the productivity of root crops across the region. Human groups continued to practice broad

spectrum, highly mobile subsistence strategies with an increasing reliance on salmon, although evidence of food storage during this period is rare (Chatters and Pokotylo 1998). Other than addition of large side-notched points and a decrease in the overall size of projectile points—evidence of atlatl use—the tool kit is similar to that of the preceding period. Toward the end of the period, the appearance of individual or small numbers of pit houses along major drainages signals the rise of semi-sedentary settlement strategies. The presence of hopper mortars and milling stones suggest of the increased importance of roots and other plant resources in the diet. Evidence of trade in the form of glassy volcanic stone tool material and marine shell increases dramatically over the prior period (Ames et al. 1998). Other site types include large open sites lacking evidence of habitations, caves, short-term camps, resource extraction sites, and resource processing sites, generally located farther from the major drainages.

4,000 to 250 BP

Cooling climatic conditions near the beginning of this period helped to stabilize salmon productivity by restricting the seasonality of the migrations (Butler and Schalk 1986). Inhabitants of the Plateau responded by intensifying their use of salmon, storing the important resource for year-round consumption, and structuring their subsistence strategies to coincide with seasonal salmon migrations. Semi-permanent villages of pit houses of various sizes, and longhouses appearing about 1,500 BP, were located mainly along rivers and major tributaries and occupied during the winter months; some of the habitations were eventually used for human burials. Petroglyphs and pictographs, dating as early as 3,500 BP, are most common near the larger settlements such as at The Dalles on the lower Columbia River (Boreson 1998). Short-term or specialized camps positioned at strategic resource locales in the uplands and mountains were used on a seasonal basis. Storage pits contain evidence of increased use of salmon and cave sites, plus well-preserved wood and fiber artifacts. The adoption of the bow and arrow (demonstrated through a variety of small points), specialized fishing technologies (including a variety of nets, harpoons, and barbed bone points), and the continued presence of grinding and pounding tools fostered the logistics of increasingly complicated subsistence strategies. Late in the period, the introduction of the horse allowed some of the inhabitants to become highly mobile, hunting bison on the Northern Plains, and facilitated movement of

Plains material culture to the Plateau, which expanded the trade networks established in the earlier periods (Ames et al. 1998).

Historic Cultural Resource Sites and Site Types

Historic Cultural Resource Sites and Site Types

Euroamerican contact with native people, resulting in written documentation of geographic regions, cultures, and events, is generally regarded as the beginning of the historic period. Historic contacts with the western

United States and Alaska generally began through exploration or trading, with missionary activities soon following in some of the land areas now managed by the BLM. The earliest exploration occurred in the Southwest and California in the 1500s, with settlements by the military, missionaries, and colonists in the 1600s in the Southwest and 1700s in California. In the late 1700s, Spanish, Russian, British, and American exploration and trade extended up and down the west coast of North America. By the late 1700s and early 1800s, explorers such as Lewis and Clark and fur traders traversed the interior of what is now the western United States (Table E-2).

The discovery and the promise of precious metals first inspired conquest of Native people through treaty and

TABLE E-2
European and American Contact in Western North America
(Tribes indicated are representative but not inclusive)

Culture Area	Contact Date	Source
Alaska (Arctic and Subarctic)	Gradual interior expansion following first contact along the coast. First Russian trading post established on Kodiak Island 1784. Late 1700s (1790s) Russian exploration up Kuskokwim River. Around 1800, English arrive in Eastern Kutchin and northern Mackenzie River areas.	Hosley (1981)
Northwest Coast	Possibly as early as 1707 (evidence of wrecked Manila galleon off the Oregon Coast) Tlingit: 1741, Russian; 1775, Spanish Northern Coast Salish: 1792, British and Spanish Southern Coast Salish: 1792, British Kalapuyan (Willamette Valley area): 1812, Pacific Fur Company (Montreal)	De Laguna (1990), Kennedy and Bouchard (1990), Suttles (1990), Suttles and Lane (1990), Zenk (1990)
California	1542, Spanish (Cabrillo) 1579, English (Drake)	Castillo (1978)
Southwest	1540, Spanish	Ortiz (1979)
Great Basin	1770s, Spanish	Malouf and Findlay (1986)
Plains	1528-1536 (Texas), Spanish 1540-1542 (Texas and Kansas), Spanish 1659 (Northern Plains), French	Swagerty (2001)
Plateau	1600-1750, British and Spanish 1805 (Palouse), American	Sprague (1998), Walker and Sprague (1998)

force, created the market for the development of agriculture, timber, and fisheries, and finally motivated the construction of a transportation system sufficient to transport both people and goods. In the twentieth century, the federal government reserved vast tracts of the West for management by the National Park Service, Forest Service, and, beginning in 1934 with

passage of the Taylor Grazing Act, by the Grazing Service (precursor to the BLM).

This federal land has continued to sustain the mining, logging, fishing, and ranching industries. It has also been witness to military training exercises (the American military trained for both world wars and the

Cold War on open stretches of public lands administered by the BLM) and to recreational use as increasing populations and urbanization created a higher demand for outdoor recreation (and as increased leisure time and the advent of the family car made this recreation possible).

The history of the rural West can be broadly summarized, therefore, as a chronological progression from exploration, to the discovery of mineral wealth, to wars with the Native population, to non-Indian settlement and the growth of communities dependent upon resource extraction—farming, ranching, logging, fishing, and mining. These communities were in turn linked to local, regional, and national markets through a complex and evolving system of trails, military roads, wagon roads, rail lines, and navigable river corridors, a trend that continues into the modern period. By the mid-twentieth century, with the region secured and transportation assured, recreation and tourism increasingly comprised the economic base of western communities and military training use escalated in response to the training needs of the modern military.

Public lands, encompassing the full extent of the western states, therefore contain cultural resources representing all major periods and events in the broad sweep of human history in the West. The most common rural manifestations of these dominant themes include transportation resources; military sites; mining resources related to exploration, extraction, and processing; ranching and farming resources; fishery resources; logging resources; evidence of community development; and evidence of recreation and leisure. Cultural resource types and sub-types associated with these themes are presented in [Table E-3](#). Please note that the resource types developed prior to the establishment of the Grazing Service/BLM (1934) or those that are not directly associated with BLM administrative or permitted activities will most often be archaeological in nature. The historic site types presented below are organized by context (or theme) rather than culture area; ranching, for example, was a prominent land use on public land in both the Great Basin and the Plateau. While the details of resource types associated with this industrial process will vary from ecoregion to ecoregion, the overriding process, which in turn defines the site types, remains constant.

The specific nature of cultural resources located on public land will vary greatly based upon time of construction and/or technology employed, period of use, available building materials (e.g. adobe, log, cedar

plank, milled-lumber, or sod) and the specific characteristics of local culture, climate, and geography (see [Table E-1](#)). For example, the BLM administers lands in both the deserts of the Southwest and the rainforests of the Northwest. Human response to these varied conditions and economic opportunities resulted in development of widely varied resources. This variation will prove particularly true for cultural resources associated with extraction industries, where the industrial system is defined by function and can only be understood in relationship to the specific exploited natural resource, or for cultural resources constructed prior to development of a regional transportation system, when locally available materials more completely defined vernacular architectural styles. At the state and local level, these resource-specific character-defining features are detailed in a variety of historic contexts or cultural resource management plans developed by State Historic Preservation Offices.

Cultural Resources Data Summary

Following passage of the Archaeological and Historic Preservation Act of 1974, government agencies initiated extensive cultural resource inventories of public lands. [Table E-4](#) summarizes data by the BLM state office for total acres of land managed by BLM, the number of acres subjected to cultural resource inventories, the total cultural resource properties documented on BLM lands, and the number of properties listed in the National Register of Historic Places (National Register). It is clear from these data that while the BLM has undertaken or contracted for substantial cultural resource inventory efforts, there is still nearly 95% of public land lacking cultural resource inventories.

Many prehistoric cultural resource sites found throughout North America are quite fragile in nature and can be easily disturbed or destroyed. [Table E-5](#) presents representative listings of prehistoric site types by culture areas and time periods from throughout the regions where vegetation treatments are planned. All cultural resource sites are non-renewable resources, hence location and evaluation of sites are important initial steps in managing cultural resources as per Sections 106 and 110 of NHPA. If sites are determined to be significant and either listed in or eligible for listing in the National Register, then the managing

**TABLE E-3
Historic Site Types**

Site Type	Sub Type	Culture Region
<i>Theme: Transportation</i>		
River navigation	<ul style="list-style-type: none"> ▪ Fords ▪ Cable ferries ▪ Ship wrecks 	All
Overland navigation (non-railroad)	<ul style="list-style-type: none"> ▪ Trails ▪ Wagon roads (public and private) ▪ Truck trails (public and private) 	All
Railroad	<ul style="list-style-type: none"> ▪ Engineered features (bridges, trestles, ballast, track, and ties) ▪ Waste rock ▪ Construction camps (often distinguished by ethnic association) 	All
<i>Theme: Exploration and Overland Migration</i>		
Trails (most often extant at topographic restrictions, such as ridge lines or canyons)	<ul style="list-style-type: none"> ▪ Trail ruts (rock) ▪ Trail ruts (earth) 	All
Encampment sites	Not applicable	All
Geological landmarks with cultural value and historically important viewsheds	<ul style="list-style-type: none"> ▪ Rock promontories ▪ Springs ▪ Passes ▪ Meadows 	All
Inscriptions	<ul style="list-style-type: none"> ▪ Petroglyphs (chiseled inscriptions) ▪ Pictographs (e.g., axle grease notations) ▪ Carvings on trees 	All
Missions	<ul style="list-style-type: none"> ▪ Schools ▪ Churches ▪ Agricultural plots ▪ Orchards ▪ Housing 	All
<i>Theme: Military</i>		
Battlefields (Indian wars)	Not applicable	All, except Alaska
Training grounds	<ul style="list-style-type: none"> ▪ World War I era ▪ World War II/Korean War era ▪ Cold War era 	Great Basin and Plateau
Transportation routes	<ul style="list-style-type: none"> ▪ Trails ▪ Wagon roads 	All
<i>Theme: Agriculture</i>		
Ranching	<ul style="list-style-type: none"> ▪ Home ranch facilities (including foundations) ▪ Outlying buildings and structures ▪ Cultural landscape elements (including fences, field/pasture patterns, stock ponds and dams, stock trails, and river fords) ▪ Irrigation structures ▪ Archaeological sites 	All
Farming	<ul style="list-style-type: none"> ▪ Home ranch facilities (including foundations) ▪ Outlying buildings and structures ▪ Cultural landscape elements (including pasture patterns, stock ponds, and dams) ▪ Irrigation structures ▪ Archaeological sites 	All

**TABLE E-3 (Cont.)
Historic Site Types**

Site Type	Sub Type	Culture Region
<i>Theme: Commerce/Urban Development</i>		
Urban settlement	<ul style="list-style-type: none"> ▪ Civic ▪ Commercial ▪ Domestic 	All
<i>Theme: Mining</i>		
Resources associated with extraction	<ul style="list-style-type: none"> ▪ Resources associated with prospecting (locating ore), including prospect pits and trenches (hand dug and mechanically dug) ▪ Resources associated with development (accessing and removing ore from surrounding matrix) ▪ Resources associated with placer mining (sluicing and hydraulic mining dredging) ▪ Lode mining (adits, shafts, waste rock, and interior tramways) 	All
Resources associated with beneficiation	<ul style="list-style-type: none"> ▪ Mills (various types) ▪ Smelters ▪ Tailing piles ▪ Tailing ponds ▪ Power plant 	All
Resources associated with refining	<ul style="list-style-type: none"> ▪ Refineries ▪ Power plant 	All
Support facilities	<ul style="list-style-type: none"> ▪ Bunkhouses ▪ Messhalls ▪ Kitchens ▪ Livestock shelters ▪ Trash dumps ▪ Power plants 	All
Transportation systems	<ul style="list-style-type: none"> ▪ Trails ▪ Two-track roads ▪ Truck trails ▪ Rail lines ▪ Construction debris (borrow pits, and tree stumps) 	All
<i>Theme: Logging</i>		
Extraction	<ul style="list-style-type: none"> ▪ Stumps ▪ Skid lines ▪ Sky-line cable 	All
Processing	<ul style="list-style-type: none"> ▪ Lumber mills ▪ Power plant 	All
Support facilities	<ul style="list-style-type: none"> ▪ Shingle camps ▪ Logging camps ▪ Livestock facilities 	All
Transportation	<ul style="list-style-type: none"> ▪ Roads ▪ Donkey engines ▪ Big wheels ▪ Rail lines ▪ Cables ▪ Flumes 	All

**TABLE E-3 (Cont.)
Historic Site Types**

Site Type	Sub Type	Culture Region
<i>Theme: Fisheries</i>		
Extraction (processing-related and support facilities will not be found on public land)	<ul style="list-style-type: none"> ▪ Weirs ▪ Fish traps ▪ Natural features (falls, eddies) ▪ Boats 	All
<i>Theme: Tourism and Recreation (prior to 1934)</i>		
Camp sites	Not applicable	All
Developed natural features	Not applicable	All
Summer homes	Not applicable	All
Interpretive signs	Not applicable	All
Transportation	<ul style="list-style-type: none"> ▪ Roads ▪ Trails 	All
<i>Theme: BLM Administration and Development</i>		
Administrative facilities	<ul style="list-style-type: none"> ▪ Administration buildings ▪ Maintenance and warehouse buildings ▪ Livestock facilities ▪ Domestic buildings 	All
Interpretation	<ul style="list-style-type: none"> ▪ Museums ▪ Interpretive signs 	All
Recreation (post-1934)	<ul style="list-style-type: none"> ▪ Campground ▪ Developed water source ▪ Roads and trails 	All

**TABLE E-4
BLM Acreage, Cultural Resource Survey Areas, and Cultural Resources Recorded by State Office (2005)**

State Offices	Number of Acres (in millions)	Number of Acres Surveyed	Percent of Acres Surveyed	Number of Properties Recorded	Number of Properties Listed in the National Register
Alaska	85.5	110,372	0.1	3,385	513
Arizona	12.2	822,100	6.7	11,858	362
California	15.2	1,813,118	11.9	28,454	1,226
Colorado	8.4	1,493,246	17.9	39,261	430
Idaho	12.0	2,020,017	16.8	14,604	827
Montana, North Dakota, South Dakota	8.3	1,340,862	16.2	10,224	37
Nevada	47.8	2,183,973	4.6	44,851	205
New Mexico, Kansas, Oklahoma, Texas	13.4	1,441,183	10.8	34,931	132
Oregon/Washington	16.5	1,585,560	9.6	12,623	98
Utah	22.9	1,801,321	7.9	38,526	556
Wyoming, Nebraska	18.4	2,590,426	14.1	40,157	83

TABLE E-5
Culture Areas, Prehistoric Occupation Periods, and Selected Common Site
Types for BLM Vegetation Treatment Areas

Culture Area	Paleoindian	Middle Period or Archaic	Late or Sedentary Period
Arctic and Subarctic	13,000+ to 9,000 BP Open campsites Cave or rockshelter occupation sites Animal kill or processing sites Lithic processing sites	9,000 to 6,000 BP Open campsites Tent camps Semi-subterranean houses	6,000 to 250 BP Semi-subterranean house villages Open campsites Tent camps
Northwest Coast	12,500+ to 6,000 BP Open campsites Cave or rockshelter occupation sites		6,000 to 250 BP. Large, cedar plank pithouse villages Fortified sites Seafood capture or processing sites Pictograph and petroglyph sites
California	11,000(?) to 8,000 BP Open campsites Animal kill or processing sites	8,000 to 5,000 BP Open campsites Coastal villages Plant or seafood processing sites	5,000 to 250 BP Large coastal villages Burial mounds Extensive seafood and sea mammal processing sites Intensive plant processing sites Pictograph and petroglyph sites
Great Basin	11,500+ to 8,000 BP Open campsites Cave occupation sites Lithic processing sites	8,000 to 4,000 BP Cave or rockshelter occupation sites Pithouse villages Plant processing sites Fishing sites Lithic processing sites	4,000 to 250 BP Cave or rockshelter occupation sites Small pithouse villages Plant processing sites Storage pits Lithic processing sites Pictograph and petroglyph sites
Southwest	11,500 to 8,000 BP Open campsites Animal kill or processing sites Cave occupation sites Lithic processing sites	8,000 to 2,000 BP Open campsites Cave or rockshelter occupation sites Pithouses and storage pits Waddle and daub structures Lithic processing sites Pictograph and petroglyph sites	2,000 to 250 BP Pithouse villages Storage pits Above-ground structures (Pueblos) Below-ground structures (Kivas) Irrigation ditches Roads Navajo hogans and pueblitos Pictograph and petroglyph sites
Plains	12,000 to 8,000 BP Open campsites Cave or rockshelter occupation sites Animal kill or processing sites Lithic processing sites	8,000 to 2,000 BP Open campsites Cave or rockshelter occupation sites Pithouses and storage pits Tipi ring sites Cairns and cairn lines Animal kill or processing sites Lithic processing sites Plant processing sites	2,000 to 250 BP Open campsites Tipi ring sites Waddle and daub structures Earthlodge villages Burial mounds Storage pits Cave or rockshelter occupation sites Small pithouse villages Cairns and cairn lines Animal kill or processing sites Lithic processing sites Plant processing sites Pictograph and petroglyph sites

**TABLE E-5 (Cont.)
Culture Areas, Prehistoric Occupation Periods, and Selected Common Site
Types for BLM Vegetation Treatment Areas**

Culture Area	Paleoindian	Middle Period or Archaic	Late or Sedentary Period
Plateau	<i>12,500 to 8,000 BP</i> Open campsites Cave or rockshelter occupation sites Fishing sites Lithic processing sites	<i>8,000 to 4,000 BP</i> Open campsites Small pithouse villages Cave occupation sites Animal or fish processing sites Lithic processing sites Plant processing sites	<i>4,000 to 250 BP</i> Pithouse and longhouse villages, often with burials Open campsites Cave occupation sites Storage pits Animal or fish processing sites Lithic processing sites Plant processing sites Pictograph and petroglyph sites

agency, in this case the BLM, needs to develop plans either to protect the resources or prepare and implement data recovery plans as part of the mitigation of effects from proposed undertakings or actions.

This summary presentation just begins to describe the range in age and variety of site types located on BLM-administered lands throughout the western United States and Alaska. The cultural heritage known for the various culture areas extends back 11,000 to 13,000 years before the present. As one moves forward in time, the number and variety of sites increases mainly as a result of the increase in Native populations and, after 1500 AD or so, European and Euroamerican

immigration and population increase. This document indicates that a wide variety of prehistoric and historic site types are recorded on public lands and they add substantially to our knowledge of the cultural heritage of the continent. Moreover, as new sites are located and recorded, gaps in the broad picture of our cultural heritage can be filled and, through excavation of or data recovery from significant sites, our scientific knowledge can also be increased.

References

- Adovasio, J.M. 1986.** Prehistoric Basketry. Pages 194-205 *in* Great Basin (W. d'Azevedo, ed.). Handbook of North American Indians, Volume 11 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Aikens, M.C. 1983.** The Far West. Pages 203-241 *in* Ancient North Americans (J.D. Jennings, ed.). W.H. Freeman and Company. New York, New York.
- _____, and **D.B. Madsen. 1986.** Prehistory of the Eastern Area. Pages 149-160 *in* Great Basin (W. d'Azevedo, ed.). Handbook of North American Indians, Volume 11 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Ames, K.M., D.E. Dumond, J.R. Galm, and R. Minor. 1998.** Prehistory of the Southern Plateau. Pages 73-80 *in* Plateau (D.E. Walker, Jr., ed.). Handbook of North American Indians, Volume 12 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- _____, and **H.D.G. Maschner. 1999.** Peoples of the Northwest Coast: Their Archaeology and Prehistory. Thames and Hudson. London, U.K.
- Anderson, D.D. 1984.** Prehistory of North Alaska. Pages 80-93 *in* Arctic (D. Damas, ed.). Handbook of North American Indians, Volume 5 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Bamforth, D.B. 2002.** High-tech Foragers? Folsom and Later Paleoindian Technology on the Great Plains. *Journal of World Prehistory* 16:55-98. Plenum Publishing Corporation.
- Bell, R.E., and R.L. Brooks. 2001.** Plains Village Tradition: Southern. Pages 207-221 *in* Plain (R.J. DeMallie, ed.). Handbook of North American Indians, Volume 13 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Bendix, J. 2002.** Pre-European Fire in California Chaparral. *In* Fire, Native Peoples, and the Natural Landscape (T.R. Vale, ed.). Island Press. Washington, D.C.
- Boreson, K. 1998.** Rock Art. Pages 611-619 *in* Plateau (D.E. Walker, Jr., ed.). Handbook of North American Indians, Volume 12 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Brugge, D.M. 1983.** Navajo Prehistory and History to 1850. Pages 489-501 *in* Southwest (A. Ortiz, ed.). Handbook of North American Indians, Volume 10 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Butler, B.R. 1986.** Prehistory of the Snake and Salmon River Area. Pages 127-134 *in* Great Basin (W. d'Azevedo, ed.). Handbook of North American Indians, Volume 11 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Butler, V.L., and R.F. Schalk. 1986.** Holocene Salmonid Resources of the Upper Columbia. Institute for Environmental Studies, Office of Public Archaeology, University of Washington. Seattle, Washington.
- Canaday, T.W. 2001.** High-altitude Archeological Investigations at Cedar Breaks National Monument, Utah. Cultural Resource Selections Series No. 17, Intermountain Region, National Park Service, Department of the Interior. Denver, Colorado.
- Castillo, E.D. 1978.** The Impact of Euro-American Exploration and Settlement. Pages 99-127 *in* California (R.F. Heizer, ed.). Handbook of North American Indians, Volume 8 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Chatters, J.C., and D.L. Pokotylo. 1998.** Prehistory: Introduction. Pages 73-80 *in* Plateau (D.E. Walker, Jr., ed.). Handbook of North American Indians, Volume 12 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Clark, D.W. 1984.** Prehistory of the Pacific Eskimo Region. Pages 80-93 *in* Arctic (D. Damas, ed.). Handbook of North American Indians, Volume 5 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Clelow, C.W., Jr. 1978.** Prehistoric Rock Art. Pages 619-625 *in* California (R.F. Heizer, ed.). Handbook of North American Indians, Volume 8 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.

- Croes, D. 2007.** Recent Investigations at Sauvie Island Wet Site, Portland, Oregon. 60th Annual Northwest Archaeological Conference Symposium. Pullman, Washington.
- De Laguna, F. 1990.** Tlingit. Pages 203-228 *in* Northwest Coast (W. Suttles, ed.). Handbook of North American Indians, Volume 7 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Dixon, E.J. 1999.** Bones, Boats, and Bison: Archaeology and the First Colonization of Western North America. University of New Mexico Press. Albuquerque, New Mexico.
- Driver, H.E., and W.C. Massey. 1957.** Comparative Studies of North American Indians. Transactions of the American Philosophical Society 47(2). Philadelphia, Pennsylvania.
- Dumond, D.E. 1987.** The Eskimos and Aleuts. Thames and Hudson, Ltd. London, U.K.
- Elston, R.G. 1986.** Prehistory of the Western Area. Pages 135-148 *in* Great Basin (W. d'Azevedo, ed.). Handbook of North American Indians, Volume 11 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Gunnerson, J.H. 1979.** Southern Athapaskan Archeology. Pages 162-169 *in* Southwest (A. Ortiz, ed.). Handbook of North American Indians, Volume 9 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- _____. **2001.** Plains Village Tradition: Western Periphery. Pages 234-244 *in* Plains (R.J. DeMallie, ed.). Handbook of North American Indians, Volume 13 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Hosley, E.H. 1981.** Intercultural Relations and Cultural Change in the Alaska Plateau. Pages 546-561 *in* Subarctic (J. Helm, ed.). Handbook of North American Indians, Volume 6 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Irwin-Williams, C. 1979.** Post-Pleistocene Archeology, 7000-2000 B.C. Pages 22-30 *in* Southwest (A. Ortiz, ed.). Handbook of North American Indians, Volume 9 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Jennings, J.D. 1986.** Prehistory: Introduction. Pages 113-119 *in* Great Basin (W. d'Azevedo, ed.). Handbook of North American Indians, Volume 11 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Johnson, A.E. 2001.** Plains Woodland Tradition. Pages 159-172 *in* Plains (R.J. DeMallie, ed.). Handbook of North American Indians, Volume 13 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Kehoe, A.B. 1992.** North American Indians: A Comprehensive Account. Prentice-Hall Inc., a Simon and Schuster Company. Englewood Cliffs, New Jersey.
- Kennedy, D.I.D., and R.T. Bouchard. 1990.** Northern Coast Salish. Pages 441-452 *in* Northwest Coast (W. Suttles, ed.). Handbook of North American Indians, Volume 7 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Krause, R.A. 2001.** Plains Village Tradition: Coalescent. Pages 196-206 *in* Plains (R.J. DeMallie, ed.). Handbook of North American Indians, Volume 13 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- LeTourneau, P. 2000.** Folsom Toolstone Procurement in the Southwest and Southern Plains. Unpublished Ph.D. Dissertation, Department of Anthropology, University of New Mexico. Albuquerque, New Mexico.
- Lewis, H.T. 1993.** Patterns of Indian Burning in California: Ecology and Ethnohistory. *In* Before the Wilderness: Environmental Management by Native Californians (T.C. Blackburn and K. Anderson, eds.). Ballena Press. Menlo Park, California.
- Lyman, R.L. 1991.** Prehistory of the Oregon Coast: The Effects of Excavation Strategies and Assemblage Size on Archeological Inquiry. Academic Press. San Diego, California.

- Malouf, C.I., and J.M. Findlay. 1986.** Euro-American Impact before 1870. Pages 449-516 *in* Great Basin (W. L. d'Azevedo, ed.). Handbook of North American Indians, Volume 11 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Maxwell, J.A. 1978.** America's Fascinating Indian Heritage. Reader's Digest Association, Inc. New York, New York.
- McCartney, A.P. 1984.** Prehistory of the Aleutian Region. Pages 119-135 *in* Arctic (D. Damas, ed.). Handbook of North American Indians, Volume 5 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Mehring, P.J., Jr. 1986.** Prehistoric Environments. Pages 31-50 *in* Great Basin (W. d'Azevedo, ed.). Handbook of North American Indians, Volume 11 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Moratto, M.J. 1984.** California Archaeology. Academic Press, Inc. Orlando, Florida.
- Nelson, C.M. 1990.** Prehistory of the Puget Sound Region. Pages 481-484 *in* Northwest Coast (W. Suttles, ed.). Handbook of North American Indians, Volume 7 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Ortiz, A. 1979.** Introduction. Pages 1-4 *in* Southwest (A. Ortiz, ed.). Handbook of North American Indians, Volume 9 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Schaafsma, P. 1980.** Indian Rock Art of the Southwest. School of American Research, Southwest Indian Art Series. Santa Fe, New Mexico.
- _____. **1986.** Rock Art. Pages 215-226 *in* Great Basin (W. d'Azevedo, ed.). Handbook of North American Indians, Volume 11 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Sprague, R. 1998.** Palouse. Pages 352-359 *in* Plateau (D.E. Walker, Jr., ed.). Handbook of North American Indians, Volume 12 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Sturtevant, W.C. (ed.). 1978-2001.** Handbook of North American Indians. Smithsonian Institution. Washington, D.C.
- Suttles, W. 1990.** History of Research: Early Sources. Pages 70-72 *in* Northwest Coast (W. Suttles, ed.). Handbook of North American Indians, Volume 7 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- _____, **and B. Lane. 1990.** Southern Coast Salish. Pages 485-502 *in* Northwest Coast (W. Suttles, ed.). Handbook of North American Indians, Volume 7 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Swagerty, W.R. 2001.** History of the United States Plains until 1850. Pages 256-279 *in* Plains (R.J. DeMallie, ed.). Handbook of North American Indians, Volume 13 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Timbrook, J., J.R. Johnson, and D.D. Earle. 1993.** Vegetation Burning by the Chumash. *In* Before the Wilderness: Environmental Management by Native Californians (T.C. Blackburn and K. Anderson, eds.). Ballena Press. Menlo Park, California.
- U.S. Department of the Interior Bureau of Land Management. No date.** Cultural Resource Management Manual 8100, Interim Guidance. Washington, D.C.
- Vehik, S.C. 2001.** Hunting and Gathering Tradition: Southern Plains. Pages 146-158 *in* Plains (R.J. DeMallie, ed.). Handbook of North American Indians, Volume 13 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Walker, D.E., and R. Sprague. 1998.** History until 1846. Pages 138-148 *in* Plateau (D.E. Walker, Jr., ed.). Handbook of North American Indians, Volume 12 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Wallace, W.J. 1978.** Post-Pleistocene Archeology, 9000 to 2000 B.C. Pages 25-37 *in* California (R.F. Heizer, ed.). Handbook of North American Indians, Volume 8 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.

- Warren, C.N., and R.H. Crabtree. 1986.** Prehistoric of the Southwestern Area. Pages 183-193 *in* Great Basin (W. d'Azevedo, ed.). Handbook of North American Indians, Volume 11 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Washburn, W.E. 1988.** History of Indian-White Relations (W.E. Washburn, ed.). Handbook of North American Indians, Volume 4 (W. C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Wedel, W.R. 1961.** Prehistoric Man on the Great Plains. University of Oklahoma Press. Norman, Oklahoma.
- _____. **1983.** The Prehistoric Plains. Pages 203-241 *in* Ancient North Americans (J.D. Jennings, ed.). W.H. Freeman and Company. New York, New York.
- _____. **2001.** Plains Village Tradition: Central. Pages 173-185 *in* Plains (R.J. DeMallie, ed.). Handbook of North American Indians, Volume 13 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Wessen, G. 1990.** Prehistory of the Ocean Coast of Washington. Pages 412-421 *in* Northwest Coast (W. Suttles, ed.). Handbook of North American Indians, Volume 7 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Wood, W.R. 2001.** Plains Village Tradition: Middle Missouri. Pages 186-195 *in* Plains (R.J. DeMallie, ed.). Handbook of North American Indians, Volume 13 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Woodbury, R.B. 1979.** Prehistory: Introduction. Pages 22-30 *in* Southwest (A. Ortiz, ed.). Handbook of North American Indians, Volume 9 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- _____, and **E.B.W. Zubrow. 1979.** Agricultural Beginnings, 2000 B.C.-A.D. 500. Pages 43-61 *in* Southwest (A. Ortiz, ed.). Handbook of North American Indians, Volume 9 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Young, R.W. 1983.** Navajo Prehistory and History to 1850. Pages 393-400 *in* Southwest (A. Ortiz, ed.). Handbook of North American Indians, Volume 10 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.
- Zenk, H.B. 1990.** Kalapuyans. Pages 547-553 *in* Northwest Coast (W. Suttles, ed.). Handbook of North American Indians, Volume 7 (W.C. Sturtevant, general ed.). Smithsonian Institution. Washington, D.C.